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# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2186

Port of Yokohama Date of First Survey 5 Nov Date of Last Survey 14 Dec No. of Visits 9  
 on the Iron or Steel S.S. "Oridono Maru" Port belonging to Nishinomiya  
 No. in Reg. Book 106 Built at Yokohama By whom The Mitsubishi Dry Dock Co Owners' Address Nishinomiya When built 1917  
 Owners Yatsunami Kisen K.K. When fitted 1917  
 Yard No. 69 Electric Light Installation fitted by The Mitsubishi Dry Dock Co

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

one 12 kw. D.C. Compound are coupled with single cylinder vertical type high speed engine located in engine room.  
 Capacity of Dynamo 12 kw. Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed 1st platform in starboard engine room Whether single or double wire system is used Double  
 Position of Main Switch Board 1st platform in starboard engine room having switches to groups 4 circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each one sub main board for bridge light and cargo light are fitted in steering engine room. one distributing board fitted at fore-castle, entrance saloon, saloon partly, passage of engineers & officers room and poop deck.  
 If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes  
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes  
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current  
 Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used  
 are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes, the porcelain clip mounted to  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes, the porcelain clip mounted to

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Total number of lights provided for 141 arranged in the following groups :-

Group	Description	Lights	Current (Amperes)
A	Bridge deck	lights each of <u>14.06</u>	<u>49.21</u> Amperes
B	Fore-castle	lights each of <u>25.6</u>	<u>8.96</u> Amperes
C	Engine room	lights each of <u>5.28</u>	<u>18.48</u> Amperes
D	Cargo cluster	lights each of <u>15.36</u>	<u>53.76</u> Amperes
E	Mast head light with 2 lamps each of <u>32</u>		<u>2.24</u> Amperes
	Side light with 2 lamps each of <u>32</u>		<u>2.24</u> Amperes
	4 cargo lights of <u>32</u>		<u>nitro lamps 12 Amps.</u>

If arc lights, what protection is provided against fire, sparks, &c. no.

Where are the switches controlling the masthead and side lights placed at chart room on flying bridge deck.

## DESCRIPTION OF CABLES.

Description	Amperes	Wires	S.W.G. diameter	Total sectional area (square inches)
Main cable carrying <u>142.4</u> Amperes, comprised of <u>37/16</u> wires, each	<u>142.4</u>	<u>37</u>	<u>1.19</u>	<u>125.6</u> square inches total sectional area
Branch cables carrying <u>49.21</u> Amperes, comprised of <u>19</u> wires, each	<u>49.21</u>	<u>19</u>	<u>0.633</u>	<u>63.3</u> square inches total sectional area
Branch cables carrying <u>8.96</u> Amperes, comprised of <u>7</u> wires, each	<u>8.96</u>	<u>7</u>	<u>0.129</u>	<u>12.9</u> square inches total sectional area
Leads to lamps carrying <u>2.8</u> Amperes, comprised of <u>1</u> wires, each	<u>2.8</u>	<u>1</u>	<u>0.032</u>	<u>3.2</u> square inches total sectional area
Cargo light cables carrying <u>53</u> Amperes, comprised of <u>19</u> wires, each	<u>53</u>	<u>19</u>	<u>0.633</u>	<u>63.3</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables insulated with pure india rubber, 3 coats vulcanized, rubber coated tape and braided cotton which is immersed to solution of the gutta-percha  
 and protected by an galvanized steel armoured wires.  
 Joints in cables, how made, insulated, and protected our distributing system are not directly branching or leading to lamps, those wires and cables jointed by brass or copper terminals which is based porcelain and protected with cast iron braided covers.  
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes  
 Are there any joints in or branches from the cable leading from dynamo to main switch board no.  
 How are the cables led through the ship, and how protected Cables are lead through the iron bulk head or beams. Protection are not ready for armoured cables, but for the vulcanized wires are protected by iron tube or wooden maulding.

**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible Yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture galvanized iron tubing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Iron tubing or moulding

What special protection has been provided for the cables near boiler casings Exposed armoured cables

What special protection has been provided for the cables in engine room ditto

How are cables carried through beams ferrules or fibre tubing through bulkheads, &c. W.P. bulk heads brass stuffing box for

How are cables carried through decks galvanized iron deck tubes

Are any cables run through coal bunkers No or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected galvanized iron tubings

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage No

If so, how are the lamp fittings and cable terminals specially protected No

Where are the main switches and fuses for these lights fitted fitted on the upper deck

If in the spaces, how are they specially protected No

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed portable How fixed fitted in passage of upper deck

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel No

How are the returns from the lamps connected to the hull No

Are all the joints with the hull in accessible positions No

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed on main switch Board

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas No

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas all lamps is covered with glass globes

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

N. Leo Electrical Engineers Date Jan. 1918

**COMPASSES.**

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

KOBE WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

M. Parkis Builder's Signature. Date \_\_\_\_\_

**GENERAL REMARKS.** General Manager.

The installation has been fitted in accordance with the Rule requirements & worked satisfactorily on trial

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

AWD 3/4/18

Arthur L. Jones

Surveyor to Lloyd's Register of Shipping.

Committee's Minute. FRI APR 5 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

